格物光学
GOPTICA

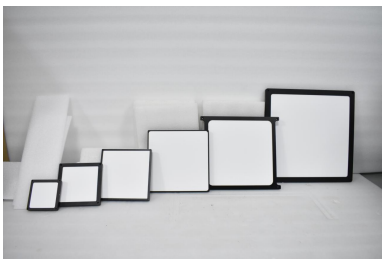
Spectrum Accessories

Shanghai Goptica Co.,Ltd
CHINA · SHANGHAI
www. goptica.com

Catalogue

Spectrum Accessories

Standard White Board



Product Description

A whiteboard is a shortened term for a standard whiteboard or reference whiteboard, which is an optical transmission standard. It is a whiteboard that has been calibrated and provides spectral reflectance data, supplied by the National Metrology Institute (National Standards Administration). Broad users rely on this data to measure the optical properties of other samples. Regardless of the instrument or method used, all measurement data must ultimately be traced back to the standard of the National Metrology Institute. Only in this way can measurements from different sources be comparable, effective, accurate, and credible.

Optical Performance

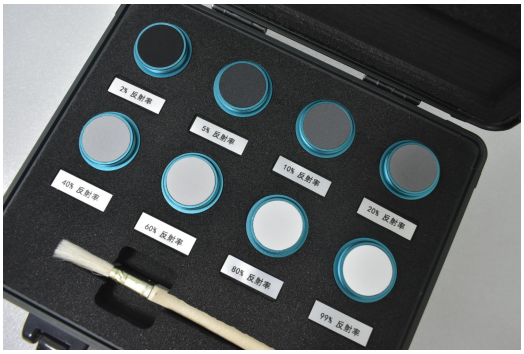
- High reflectance ratio, requiring the reflectance ratio to be as high as possible, with a reflectance better than 98%.
- Good diffusing performance, surface without gloss, close to Lambertian diffuser.
- Low spectral selectivity, i.e., good neutrality, with the same high spectral reflectance ratio for all wavelengths, using wavelength 250-2500nm.
- Non-transparency to avoid background and edge loss.
- Good flatness and uniformity, with the entire surface flat and the same reflectance ratio at all points.
- Sufficiently good optical stability.
- The value is traceable to PRD, with its reflectance ratio known, providing the reflectance data report from the Chinese Academy of Metrology.

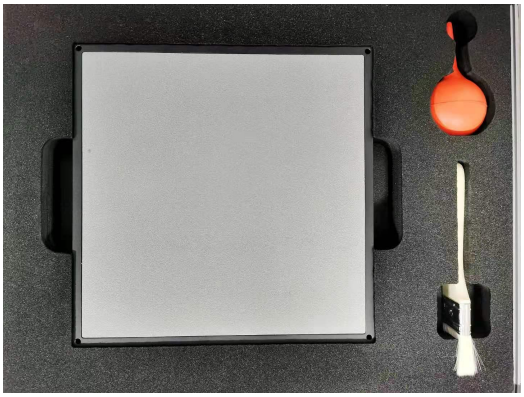
Specifications

Product name	Standard whiteboard
Specification model	DR-C50
Whiteboard diameter for use	50mm（10mm-3000mm customizable)
Whiteboard material	Domestic PTFE, Imported PTFE (optional)
Spectral range	205nm-2500nm
Reflectivity	Visible light range better than 98%
Data and Information	Provide a copy of the reflectance data report from the Chinese Academy of Metrology
Shell material\color	Aluminum alloy\black, blue
Shell size	59*17mm
Weight	92g

Spectrum Accessories

Diffuse Reflection Grayscale Step Plate





Product Description

A standard diffuse gray reference plate is independently developed by our company, processed through special techniques, and assembled to achieve high diffuse reflection, precise measurement, simple and convenient use, and easy portability.

Large-area dark, gray, and white target plates are ideal for accurately evaluating short-range and long-range sensitivity within the dynamic range of LiDAR systems.

Optical Performance

- The reflective surface of the gray reference plate is an ideal Lambertian diffuse surface, with reflected light in any direction.
- The gray reference plate is primarily used for optical calibration measurements, such as light source, color, and spectral analysis.
- The grayscale plate has excellent optical stability and never degrades, resistant to acid, alkali, and salt corrosion.

Specifications

Product name	Diffuse Reflection Grayscale Step Plate
Specification model	PHL1-S100
Diameter	100mm（30mm-3000mm customizable)
Material	Spray PTFE
Spectral range	250nm-2500nm
Reflectivity	Can be customized according to different requirements for reflectivity
Data and Information	Provide a copy of the reflectance data report from the Chinese Academy of Metrology
Shell material\color	Aluminum alloy\black, blue

Spectrum Accessories

Standard Aluminum Mirror

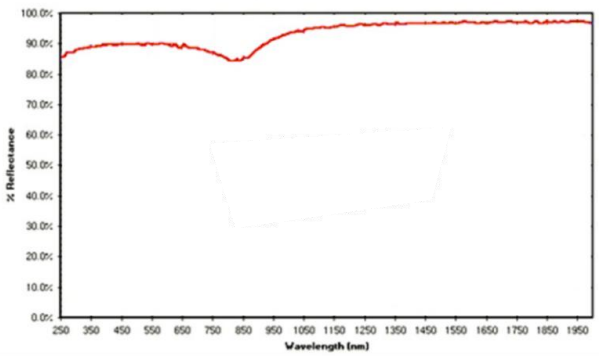
Product Description

The standard mirror is a reference material for reflectance measurement. The STA-AL standard mirror from Goptica is made by thermally evaporating high-reflective Al material, capable of providing high reflectance in the wide spectral range of ultraviolet-visible-near infrared (200-2500 nm) for testing reference of mirror reflection samples.

Product Advantages

- The surface of the aluminum mirror is mirror reflection, and the fused quartz coating on the mirror surface prevents oxidation.
- The reflectivity is approximately 85% to 90% at wavelengths ranging from 250nm to 800nm, and 85% to 98% at wavelengths ranging from 800 to 2500nm
- The measurement value is traced back to PRD, and its reflectance ratio is known. A reflectance ratio data report from the National Institute of Metrology, China is provided.

Reflectance Spectrum



Specifications

Category	Parameter
Bandwidth	200-2500nm
Material	Mirror with fused quartz coating
Dimensions	Diameter 38mm, height 11.5mm, Working area aluminum mirror with a 30mm diameter, reflective surface height 8mm
Weight	32g
Reflectivity	250-800 nm，~80%-90%； 800-2500 nm，~85%-98%

Spectrum Accessories

Deuterium Halide Tungsten Light Source

Product Description

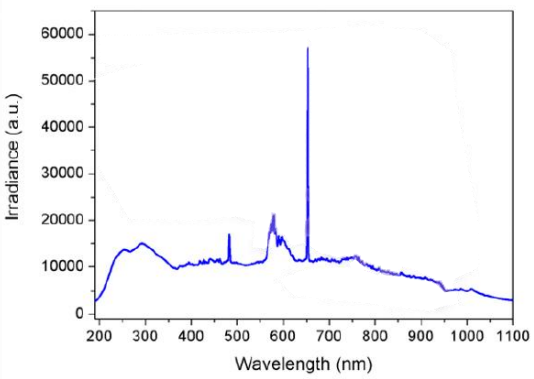
The DHG-L25 composite light source integrates a continuous deuterium lamp and a tungsten-halogen lamp with a broadband spectrum in one channel.

The deuterium lamp emits light primarily used for its ultraviolet wavelength range of 190-400 nm continuous spectral band. The deuterium lamp has three characteristic spectral lines at 486.0 nm, 583.0 nm, and 656.1 nm, which are commonly used as light sources for high-precision analytical measurement instruments, such as those used in liquid chromatographs.

The wavelength range of the tungsten-halogen lamp is typically between 360 nm and 2500 nm. The lifespan of a tungsten-halogen bulb is related to its operating temperature; the higher the color temperature, the shorter the lifespan.

Product Features

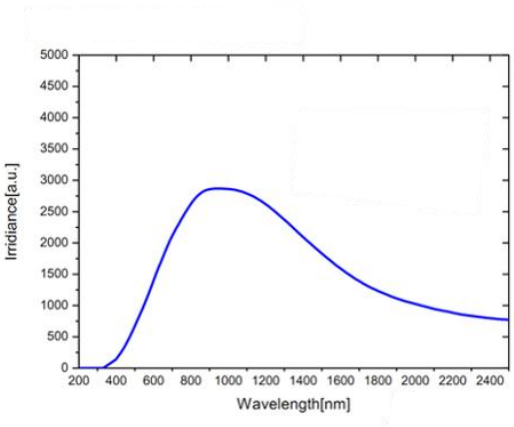
- It adopts a combination of deuterium lamps and halogen lamps, which has a wider spectral range and can continuously output stable spectra from 190 to 2500nm. The spectral intensity drift is only <0.1%/hr
- Two sets of optical paths are coupled to an SMA905 interface output using a Gewu optical lens. Halogen lamps can be output separately or simultaneously, and the intensity of the output light can be adjusted
- It adopts air-cooled heat dissipation
- It is powered by alternating current ranging from 85 to 250 volts
- The bulb power of the light source is 25W for the deuterium lamp and 10W for the halogen lamp, with a lifespan of 1500 hours
- The size of the light source is 145mm x 200mm x 110mm
- The light source bulb is a consumable. Please replace it before its lifespan expires
- It is recommended to use Gewu Optics' anti-ultraviolet irradiation quartz optical fiber
- Optional external trigger option



Product Applications

- Broad spectral range analysis
- Scientific research
- Reflection/Transmission/Absorption spectral analysis
- Deep ultraviolet spectral analysis

Halogen Light Source



Product Features

- Adopts high-quality imported halogen bulbs, with the longest lifespan of up to 10,000 hours
- Light source intensity adjustable, adjustment range 0-100%
- Wide wavelength range, 360~2500nm
- Uses air-cooled heat dissipation
- Powered by 85~250V AC or 5V USB directly, convenient for carrying and operation
- Adopts Goptica's lens coupled to SMA905 interface output
- Light source dimensions are small, with the 100W light source measuring 160mm x 85mm x 60mm, and other light sources measuring 150mm x 75mm x 50mm
- The light bulb of the light source is consumable, please replace it before the service life is reached, please contact our after-sales service.

Product Application

- Color measurement and analysis
- Spectral Analysis of Food and Drug Products
- Spectral Analysis of Environmental Water Pollution

Specifications

Model	Power Consumption	Voltage	Color temperature	Working life	Output optical power	Stability	Dimensions (mm)
HG-L5	5W	5V	2800K	10000H	600um=3.0mW	<0.15%/hr	150x75x50
HG-L18	18W	12V	3000K	2000H	1500um=6.5mW	<0.2%/hr	150x75x50
HG-L9	9W	5V	2900K	6000H	1000um=5.5mW	<0.15%/hr	150x75x50
HG-100	100W	12V	3300K	2000H	600um=13.0mW	<0.2%/hr	190x92x101

Standard Light Source Kit:
Standard A Light Source+Grayscale filter+Cosine corrector

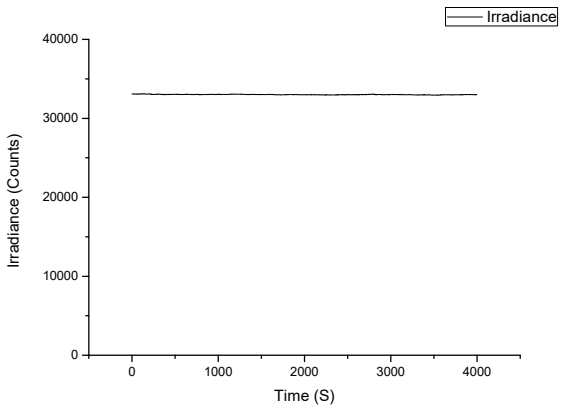
Standard A Light Source HG-L9A

Product Features

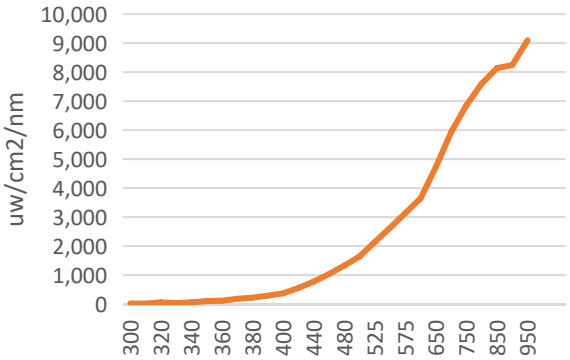
- High stability
- Precise light-emitting position
- Multiple accessories available, facilitating various output requirements such as intensity, wavelength, and collimation
- SMA905 output, optional FC output
- High fiber coupling efficiency

Product Applications

- Transmissive and reflective measurement
- High-precision illumination



Output Spectrum



Product Specifications

Model	Power Consumption	Power Supply	Color temperature	Working life	Chromatic Coordinate	Interface	Bandwidth	Dimensions (mm)	Weight
HG-L9A	9W	12VDC 2A	2915K	6000H	X:0.444 y:0.406	SMA905 or FC/PC	360-2500nm	120x55x40	290g

Spectrum Accessories

Standard Light Source Kit:
Standard A Light Source+Grayscale filter+Cosine corrector

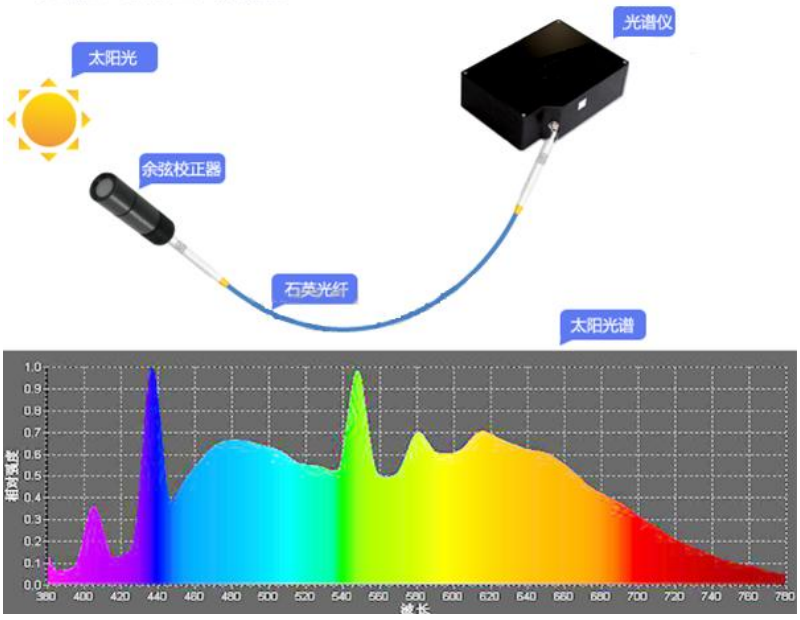
Grayscale filter

Product Description

We can provide grayscale filters with attenuation rates of 10%, 30%, 50% and 70% to achieve the output purpose of gradient luminous intensity. The light source is equipped with a dedicated filter slot.

Cosine corrector

余弦校正器测量太阳辐射



Product Features

- Wavelength range： 200-2500nm
- SMA905 interface
- Scattering materials: UV-VIS or VIS-NIR

Specifications

Model	Wavelength range	Dimensions (outer diameter/inner diameter)	Length (external)	Diffuser (diameter)	Diffuser (thickness)	Field of view	Connectable
CC-UV-NIR	200-2500nm	6.35mm/4mm	17.0mm	4900μm	500μm	180°	Optical fiber with SMA905 connector

Spectrum Accessories

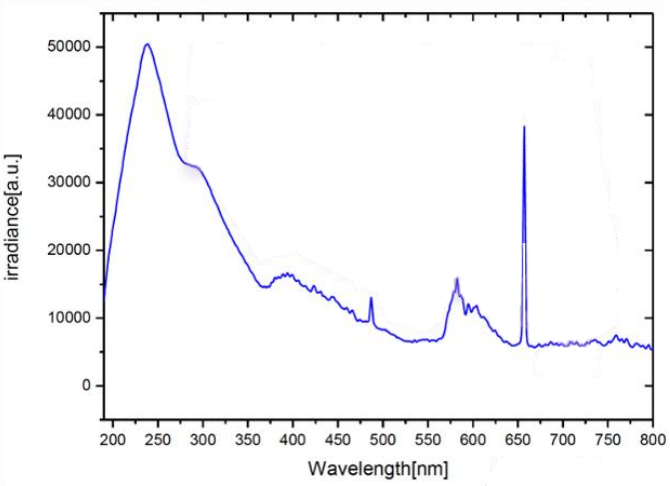
Deuterium Light Source

Product Features

- It adopts high-quality bulbs with a lifespan of up to 1,500 hours
- The wavelength range is 190 to 400nm
- The light source output is stable, and the spectral intensity drift is less than 0.1%/hr
- It adopts air-cooled heat dissipation
- It is powered by alternating current ranging from 85 to 250 volts
- The size of the light source is 145mm x 200mm x 110mm
- The light source bulb is a consumable. Please replace it before its lifespan expires
- It is recommended to use Goptica's anti-ultraviolet irradiation quartz optical fiber
- Optional external trigger option

Product Applications

- The field of deep ultraviolet spectroscopy analysis
- Ultraviolet absorbance analysis
- Ultraviolet science research
- Chromaticity analysis
- Fluorescence powder analysis



Specifications

Model	Power consumption	Color temperature	Working life	Interface	Stability	Weight	Dimension (mm)
DE-L25	25W	2800K	1500H	SMA905 or FC	<0.15%/hr	3.5kg	145x200x110
DE-L30	30W	3000K	2000H	SMA905 or FC	<0.2%/hr	3.5kg	145x200x110

Spectrum Accessories

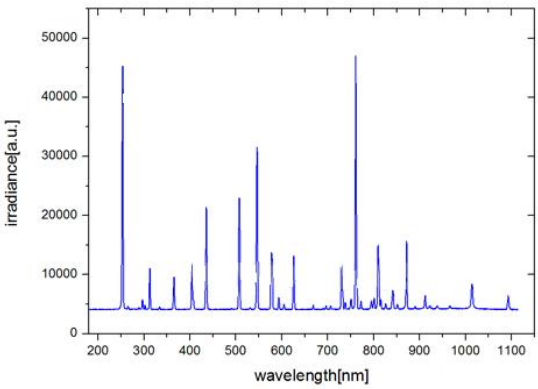
Mercury-argon Light Source

Product Features

- It adopts high-quality bulbs with a lifespan of up to 6,000 hours
- The size of the light source is 105mm x 75mm x 40mm
- It is directly powered by 12V DC and is convenient to carry and operate
- The Goptica's lens is coupled to the SMA905 interface for output
- The light source bulb is a consumable. Please replace it before its lifespan expires
- It is recommended to use Goptica's anti-ultraviolet irradiation quartz optical fiber

Product Applications

- Wavelength calibration light source



Specifications

Model	Voltag	Color temperature	Working life	Interface	Wavelength range	Weight	Dimension（mm）
Hg-1	12VDC	2800K	6000H	SMA905 or FC	253-1704nm	40g	105x75x40

Laser

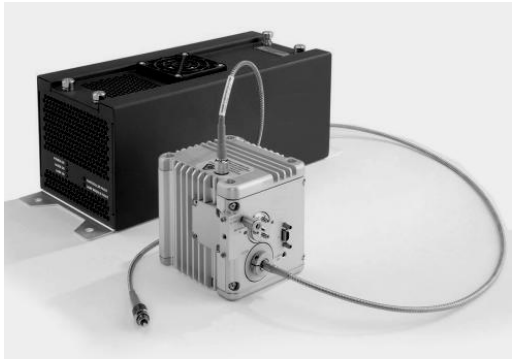
The ThunderBird series of laser sources, excitation sources for fluorescence or Raman research, is characterized by small size and high stability.

- 405nm，line width <5nm, maximum power 100mW
- 488，532，line width <0.1nm, maximum power 100mW
- 633，785，830，1064nm，line width <0.1nm, maximum power 500mW
- Volume: 45mm x 47mm x 95mm

Laser-driven plasma wide-spectrum light source

Product Description

Laser-driven plasma white light sources are a new generation of wide-spectrum light sources, mainly applied in many fields such as photolithography, measurement, and spectral detection. This light source uses laser to excite xenon gas to generate plasma light emission. Compared with traditional wide-spectrum light sources, its stability, radiation brightness and lifespan have been improved by several times.



Product Features

- High brightness
- Spatial light or optical fiber coupling
- All-in-one computer or discrete computer
- Ultra-wide spectrum
- Long life

Product Applications

- Lithography
- Semiconductor measurement
- Spectral detection
- Life sciences and bioimaging

Spectrum Accessories

Specifications

Model	V199	V199FC	V29A	V29B	V277	V277H
Wavelength range	170-2100nm	170-2100nm	170-2100nm	170-2100nm	170-2100nm	170-2100nm
Spectral radiation luminance mW/(mm².sr.nm)@ 400nm	20	0.1	10	10	60	100
Total power	0.8W	0.15W	0.5W	0.5W	4W	8W
Numerical aperture	0.47 (Standard value)	0.22 (Standard value)	0.56 (Standard value)	0.56 (Standard value)	0.5 (Standard value)	0.5 (Standard value)
Power stability (RMS)	＜0.3%(30S)	＜0.2%(30S)	＜0.2%(30S)	＜0.2%(30S)	＜0.2%(30S)	＜0.2%(30S)
Output method	Free-space output	SMA optical fiber output	Free-space output	Free-space output	Free-space output	Free-space output
Service life	10000 h	10000 h	10000 h	10000 h	10000 h	10000 h
Spatial stability of the center of mass RMS	＜5μm	＜5μm	＜5μm	＜5μm	＜5μm	＜5μm
Luminescent point size(μm)	100x200	100x200	80x200	80x200	140x450	140x450
Dimensions of the lamp chamber (mm)	82x86x76	82x86x76	109x120x43	109x120x43	125x207x95	125x207x95
Light source driven ruler(mm)	113x111x209	113x111x209	none	157x251x133	157x251x133	157x251x133

Spectrum Accessories

LED Light Source

Product Features

- All of Goptica's LED light sources are made of imported high-quality lamp beads, featuring stable performance and a lifespan of up to 100,000 hours
- The wavelength is determined by the lamp beads, with options ranging from 245 to 2000nm
- Power supply: 220VAC or 12VDC
- Output interface: SMA905, FC is optional
- TTL trigger is optional

Product Applications

- Wavelength reference
- Fluorescence measurement
- Lighting

LED light source model

Model	Electric power	Output optical power	Central wavelength	Half-peak width	Output interface
SQLED-254	0.8W	0.8mW	254nm	12nm	SMA905 or FC
SQLED-275	0.8W	0.8mW	270nm	12nm	SMA905 or FC
SQLED-370	3W	2~5mW	370nm	10nm	SMA905 or FC
SQLED-395	3W	2~5mW	395nm	10nm	SMA905 or FC
SQLED-405	3W	2~5mW	405nm	10nm	SMA905 or FC
SQLED-525	3W	2~5mW	527nm	30nm	SMA905 or FC
SQLED-880	2W	2~5mW	880nm	50nm	SMA905 or FC
SQLED-980	2W	2~5mW	980nm	40nm	SMA905 or FC
SQLED-1550	1W	1.5mW	1550nm	120nm	SMA905 or FC
SQLED-WHT	3W	2~5mW	White LED		SMA905 or FC

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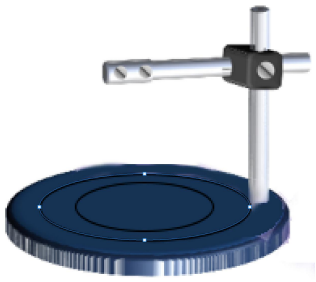
sales@goptica.com

Spectrum Accessories

Optical Holders AO Series

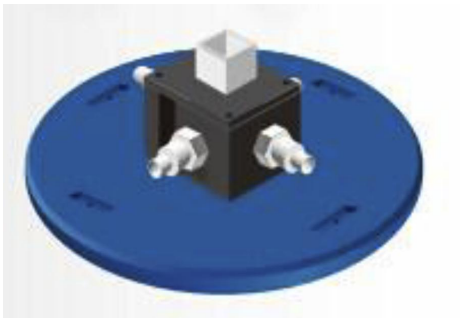


AO-R single-channel TA reflection bracket

- Install a Y-type optical fiber with a TA connector (the connector can be selected by yourself)
- Solid surface reflection measurement
- Excited fluorescence measurement
- Install a cylinder with a diameter of 6.35mm
- The diameter of the fixed hole is 6.35mm

AO-RF reflective fluorescence stent

- Install multiple optical fibers (connectors are optional)
- Two excitation light sources can be connected simultaneously
- Fluorescence measurement of solids or powders
- Solid or powder reflection measurement
- Fluorescent filters can be inserted



AO-B cuvette holder

- Suitable for 1cm optical path cuvettes
- Measurement of liquid transmittance, absorbance and reflectance
- Enhanced aluminum mirrors can be added
- Applicable wavelengths: 200 to 2500mm
- Two or four SMA905 interface optical fibers are available as options

AO-BF cuvette fluorescent scaffold

- Suitable for 1cm optical path cuvettes
- Measurement of liquid transmittance and excitation fluorescence
- Fluorescent filters can be inserted
- Applicable wavelengths: 200 to 2500mm
- Two 180° or 90° SMA905 optical fibers can be optionally connected

Spectrum Accessories

Optical Holders AO Series

AO-T transmission spectroscopy scaffold

- The length adjustment range of the base plate slide table is 200 to 700mm
- Interface input/output SMA905
- The applicable wavelength range is 200 to 2500nm
- The height of the collimating mirror is adjustable
- A sample rack is optional

AO-TR透反射测试台

AO-TR (TRS) reflection and transmission stand

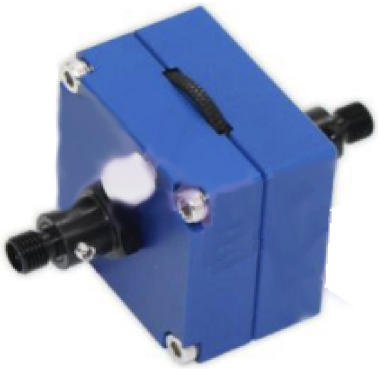
- Solid/liquid reflection measurement
- Solid/liquid transmission/absorption measurement
- Fluorescence measurement
- Scattering measurement
- Diffuse reflection measurement
- Used in conjunction with an optical trap
- 30cm adjustable slide table

AO-TRS透反射积分球测试台

AO-Dmax optical fiber attenuator

Optical fiber attenuators are used to attenuate the input optical power, avoiding distortion of optical receiving devices caused by extremely strong input optical power.

As a passive optical device, the optical fiber attenuator is used to debug the attenuation of optical signals and adjust the optical power to the required level.

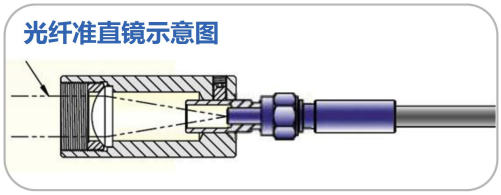


- Physical dimensions: 38*28*25mm
- Attenuation wavelength: 200-2500 nm
- Transmittance mode: 0-100%
- Attenuation method: Physical occlusion
- Adjustment method: Knob
- Adjustment method: Fiber interface: SMA905

Spectrum Accessories

Fiber Optic Collimator

Product Description



Fiber collimating mirrors are used in various optical measurement systems. They are often used to collimate the scattered light output by optical fibers into parallel light, and can also couple parallel light to multimode optical fibers.

The fiber collimating mirrors produced by Goptica's can be used for fiber collimation as well as for coupled focusing. The former can be connected to either single-mode or multi-mode optical fibers. As a coupled focusing, it is only applicable to multimode fibers (numerical aperture 0.22-0.37NA, core diameter ≥100 μ m).

Specifications

Product model	ColliM-5	ColliM-10	ColliM-25
Appearance			
Lens material	Ultraviolet fused quartz	Ultraviolet fused quartz	Ultraviolet fused quartz
Lens diameter	5mm	10mm	25.4mm
Focal length of the lens	10mm	15mm	100mm
Wavelength range	185~2500nm	185~2500nm	185~2500nm
Interface	SMA905/FC/TA	SMA905	SMA905
Compatible aperture	0.22~0.37NA	0.22~0.37NA	0.15~0.22NA
Shell material	Aluminum alloy	Aluminum alloy	Aluminum alloy
Working temperature	No frost formation within the temperature range of -20 to 150℃	No frost formation within the temperature range of -20 to 150℃	No frost formation within the temperature range of -20 to 150℃
Fixed method	Thread 3/8-24	The outer diameter is 16mm	Thread M4 or outer diameter 30mm